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THE SOURCES OF ZOONOTIC BACTERIAL DISEASES FOR ANIMALS FARMS, ITS PRODUCTS AND FARMERS HEALTH

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ABSTRACT

The aim of this research paper were to monitor the presence of source zoonotic bacterial diseases in the physical tools that used in animal farms. That had a role in the store and the transmission of zoonotic bacterial diseases to farmers and affected their health and the transfer to different farm products. As well, which caused loss of the product and diseases to consumers that may affect farmers' health and animal health. That was used principled method for bacterial isolation and identification. It was found bacteria 41%; it may cause damage to products from food poisoning to zoonotic bacterial diseases to consumers. It was found the Gram-negative 69% and Gram-positive 31%, which were the most resistant bacteria to antibiotics and causes zoonotic bacterial diseases. It was found *Staphylococcous Spp.* 39% and *Streptococcus Spp*. 13%. *Escherichia coli* were 49%; *(Pseudomonas aeruginosa, Klebseilla pneumonia,* and *Campylobacter Spp*) were (17, 12 and 11%). *(Actinobacter Spp*. and *Proteus Spp.*), were (6 and 3%), *Salmonella Spp.* was 1%. It indicated the existence of PTs as stores for that may be a source of zoonotic bacterial diseases and may easily transmitted to humans or animal products, causing health and economic damage. It was concluded that the zoonotic bacterial diseases could be transmitted from physical tools as sources that were used in the farm and caused health damage and economic effects. That recommended preferring quality physical tools to minimize the health and economic damage to decrease zoonotic bacterial diseases to be not affected animal or human health.

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INTRODUCTION

Zoonotic bacterial diseases transmitted to humans from animals, estimated 60% human infectious diseases and 75% infectious diseases considered zoonotic, It caused by a variety of pathogens, including bacteria, were 50% of zoonotic bacteria (1). That resulted wide range of diseases considerable human and animal health, and with great socioeconomic impact on endemic populations (2),

Economic losses and financial costs associated with zoonotic diseases (3). Transmission of zoonotic bacterial diseases happens in a variety of ways as contact with animal habitats or contaminated surfaces (4). Diseases caused by ingesting contaminated food of public health, especially in low and middle income countries; the risk to spread was higher due to farming, slaughtering, processing, and decontamination methods used and weak veterinarian disease control (5). Some zoonotic bacteria increasing frequency of antimicrobial-resistant isolates. As the leading cause of zoonotic bacterial disease in both animals and humans, *Salmonella* was antimicrobial resistance (AMR) "serious threats" category of the USA CDC in 2019 (6).

Campylobacter estimated 1.5 million campylobacteriosis infections / year (7). Zoonotic bacterial diseases emerging in livestock, determining the conditions evolve, spread, and eventually enter the human population. Livestock were subjected resulting from the production, processing and retail environment, which together alter host contact rate, population size, and/or microbial traffic flows in the food chain (8). More than 60% of human pathogens were zoonotic bacteria, climate change, urbanization, animal migration and trade, travel and tourism, emerging and re-emerging zoonotic bacterial diseases. The etiology impact on human health and control measures for better management. The implementation was highly recommended for the elective prevention and control of possible zoonosis, it as reverse zoonosis. Include methicillin-resistant *Staphylococcus aureus* (MRSA)، *Campylobacter Spp.*, *Salmonella enterica* Serovar *Typhimurium*. Zoonotic bacterial diseases were transmitted to animals from humans and then back from animals to humans as reverse zoonosis (9).

Bacterial, zoonotic diseases were transmitted to humans from a wide variety of animal species act as reservoir hosts for causative bacteria. Zoonosis estimated 75% of infectious humans' bacterial diseases. Followed in transmission of important zoonosis, caused by ingestion of food and animals' products. Both the economic cost and substantial at local and global levels, evidence-based prevention strategies are currently a global priority increasingly recognized, especially in zoonosis-affected regions (10).

The aims of this paper were to monitor the presence of source of zoonotic bacterial diseases in the physical tools used in animal farms. That had a role in the store and the transmission of zoonotic bacterial diseases to farmers and affected their health and the transfer to different farm products. As well, which caused loss of the product and diseases to consumers that may affect personal health.

MATERIALS AND METHODS

Samples collection

The samples were collected in sterile condition from available physical tools were included (utensils, machines, walls, and doors) from animals' farms. The samples were sent to "Bacterial Laboratory" and they were inoculated separately into "Patient Bacterial Special Media". The bacterial growth colonies were identified by "Vitek 2 Compact Automated System"; (BioMerieux, Marcy L'Etoile, France) (11).

Data analysis: The data were management by using "Excel Set" which formed the consequences (12).

RESULTS AND DISCUSSION

Table 1 and Graph 1: Percent of main microorganisms isolated from physical tools

Items	Bacterial isolates	Nonbacterial isolates
Percent	41%	59%

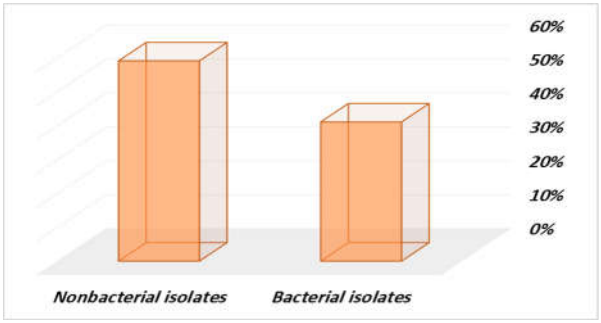

Table 1 and graph 1 presented percent of main microorganisms isolated from physical tools; it was found that the percentage of bacteria 41% was less than half of the physical tools from which samples were taken [1-10]. This indicated the importance of cleaning physical tools, as they were a great source of zoonotic bacterial diseases. That afflicted humans and farm products, which affected animal production and the general health of farmers. It may cause damages to products from food poisoning to zoonotic bacterial diseases to consumers outside the animals' farms (1-10).

Table 2 and graph 2: Percent of main identified bacteria isolated from physical tools

Items	**Gram-positive**		**Gram-negative**	
Percent	*31%*		*69%*	
	Name	***Percent***	***Name***	***Percent***
	*Staphylococcous *Spp.*	*39%*	*Escherichia coli*	*49%*
	Streptococcus Spp.	*13%*	*Pseudomonas aeruginosa*	*17%*
			Klebseilla pneumonia	*12%*
			Actinobacter Spp.	*6%*
			Campylobacter Spp	*11%*
			Salmonella Spp.	*1%*
			Proteus Spp.	*3%*
****Spp: Species.***				

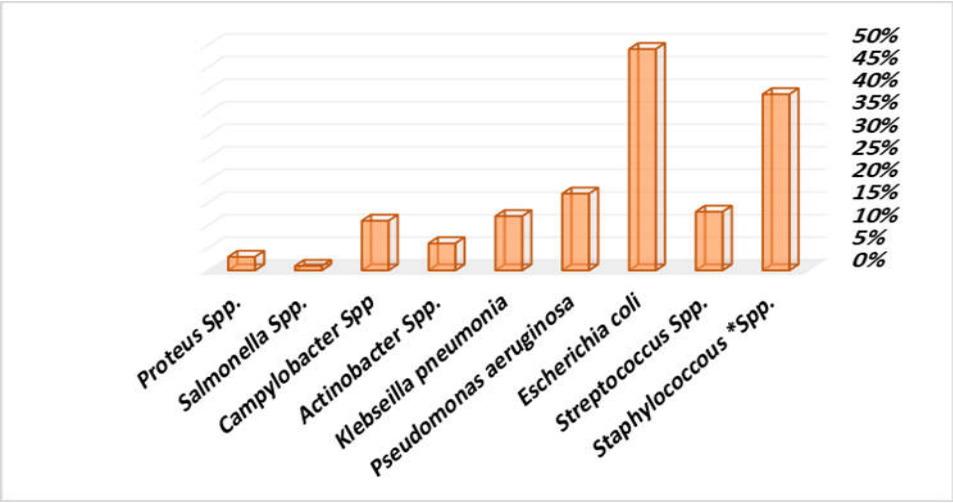

Table 2 and graph 2 presented percent of main identified bacteria isolated from physical tools; it was found that the higher rate of Gram-negative was 69% more than twice that of Gram-positive 31%, which is the most resistant bacteria to antibiotics and causes zoonotic bacterial diseases.

It was found that the Gram-positive *Staphylococcous Spp.* 39% represented more than double of *Streptococcus Spp*. 13%. One Gram-negative *Escherichia coli* 49% was found above one and it represented about half. As for *(Pseudomonas aeruginosa, Klebseilla pneumonia,* and *Campylobacter Spp*) were (17, 12 and 11%) represented about one-fifth of the total. The two types represent *(Actinobacter Spp*. and *Proteus Spp.*) were (6 and 3%) less than ten. The lowest was found *Salmonella Spp.* 1% in representing less than ten [1-10]. It indicated the existence of physical tools as stores for that may a source of zoonotic bacterial diseases and may easily transmitted to humans or animals products, causing health in addition, economic damage, which will affect the health and economic sides (1-10).

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